
The BOG
11-09-17
Willow Lake, Plumas County http://creagrus.home.montereybay.com/CA-PLU-WillowLake.html

Item 1: Agenda Review

- Quick round of updates
- Sampling plan for the Bight
- San Diego Bay fish consumption study and monitoring plans
- Beach fishing
- Safe to Eat Portal revisions

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Item 2: Quick Updates

- 2014 Clean Lakes report
- 2015 Bass Lakes data report
- 2016 Lakes data - update and timeline
- 2017 sampling - Gary (Attachment)
- Statewide Mercury Water Quality Objectives - adopted in May
- Mercury Control Program for Reservoirs - draft staff report out for peer review
- OEHHA advisories - new advisories, advisory priority list
- Datasets recently added to CEDEN
- Bay RMP 2014 sport fish report published in June
- Delta RMP mercury monitoring continues

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2016 Lakes Data Timeline

- The final dataset is available to SFEI (this just happened)
- SFEI will produce the standard set of tables and figures, and review the data. We can do this within a few weeks of the dataset being available.
- Make the tables and figures available for BOG members to review (mid-December). I'm thinking it's particularly important for OEHHA to review them. We can give the BOG a few weeks to review the results.
- Make the data available on the Portal. Within 2 months of the complete dataset being available to SFEI, it will be posted to the Portal and available to the public (end of January).

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Fish Datasets Recently Added to CEDEN

- 2014 RMP FISH
- RWB7_TMDL_2015_2016
- RWB1_RuR_Fish_2015 (RWB1 Russian River Fish)

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Item 3: Discussion: Sampling Plan for the Bight in 2018

- Desired outcome: The BOG is apprised and provides input on the plans.

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The Team

- Co-PIs: Jay Davis and Ken Schiff
- Moss Landing PI and Mercury Analysis PI: Wes Heim
- Tissue Logistics Coordinator: Autumn Bonnema
- Field Coordinator: Billy Jakl
- Fishing Guru: Gary Ichikawa
- Technical Oversight: The BOG and the BOG Review Panel

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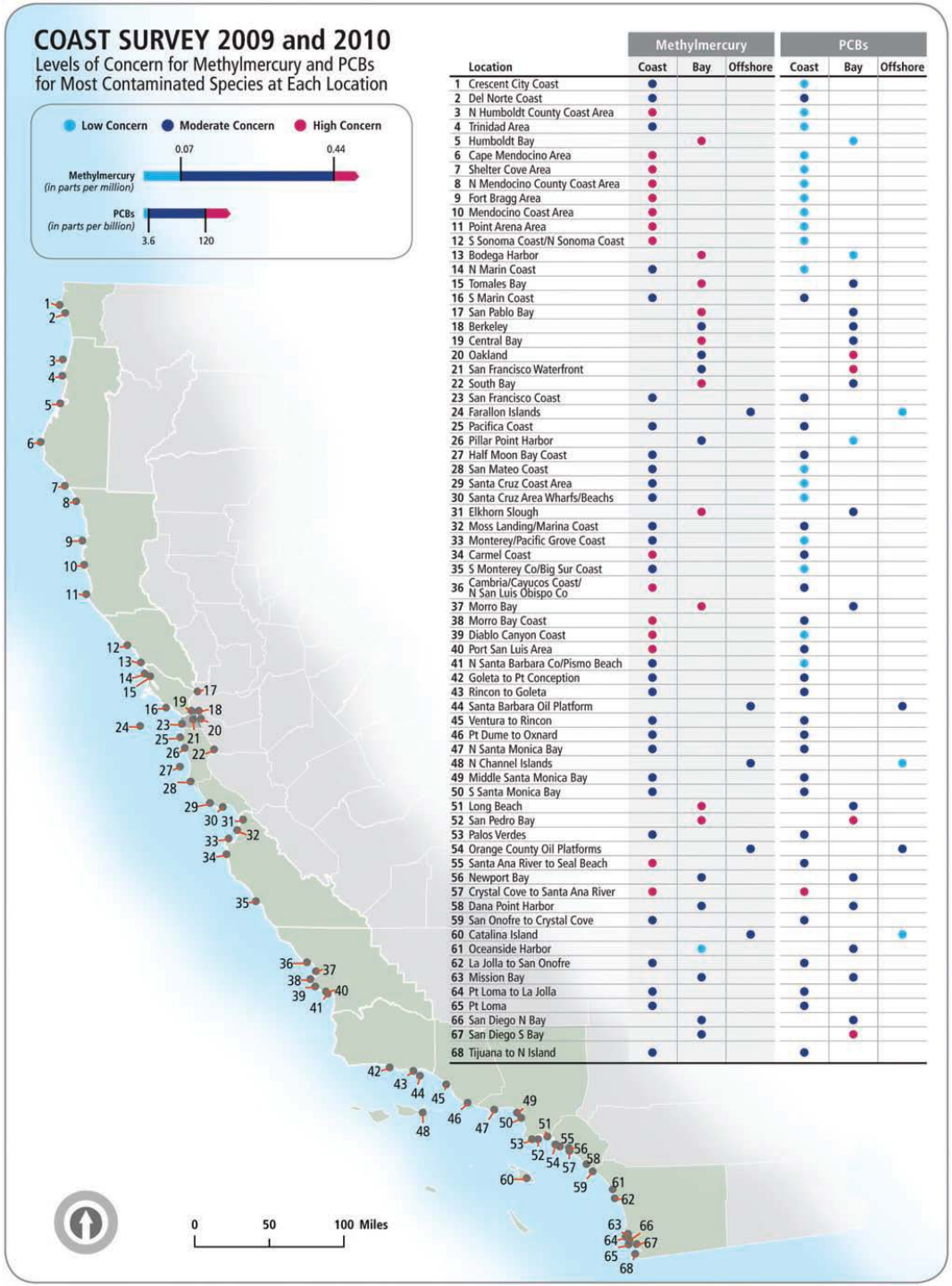
Coast Sampling – Round 2

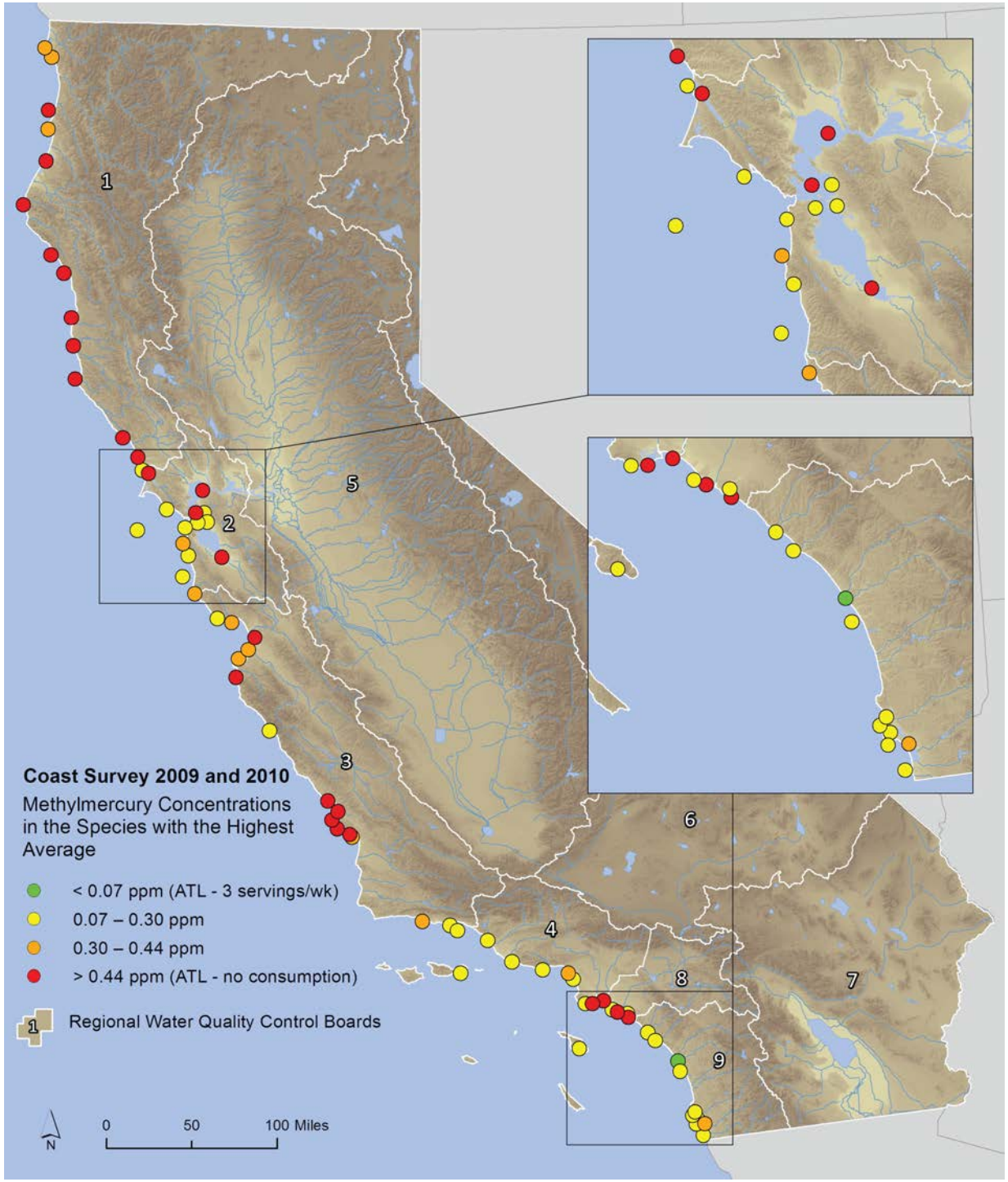
- Recap of Round 1
  - 2 year survey
  - 68 zones
    - 27 in SoCal Bight
    - 6 in SF Bay
  - 5 species per zone
  - Hg, PCBs, OCs, Se in all species



	Location	Methylmercury Coast	Methylmercury Bay	Methylmercury Offshore	PCBs Coast	PCBs Bay	PCBs Offshore
1	Crescent City Coast	●			●		
2	Del Norte Coast	●			●		
3	N Humboldt County Coast Area	●			●		
4	Trinidad Area	●			●		
5	Humboldt Bay		●			●	
6	Cape Mendocino Area	●			●		
7	Shelter Cove Area	●			●		
8	N Mendocino County Coast Area	●			●		
9	Fort Bragg Area	●			●		
10	Mendocino Coast Area	●			●		
11	Point Arena Area	●			●		
12	S Sonoma Coast/N Sonoma Coast	●			●		
13	Bodega Harbor		●			●	
14	N Marin Coast	●			●		
15	Tomales Bay		●			●	
16	S Marin Coast	●			●		
17	San Pablo Bay		●			●	
18	Berkeley		●			●	
19	Central Bay		●			●	
20	Oakland		●			●	
21	San Francisco Waterfront		●			●	
22	South Bay		●			●	
23	San Francisco Coast	●			●		
24	Farallon Islands			●			●
25	Pacifica Coast	●			●		
26	Pillar Point Harbor		●			●	
27	Half Moon Bay Coast	●			●		
28	San Mateo Coast	●			●		
29	Santa Cruz Coast Area	●			●		
30	Santa Cruz Area Wharfs/Beachs	●			●		
31	Elkhorn Slough		●			●	
32	Moss Landing/Marina Coast	●			●		
33	Monterey/Pacific Grove Coast	●			●		
34	Carmel Coast	●			●		
35	S Monterey Co/Big Sur Coast	●			●		
36	Cambria/Cayucos Coast/ N San Luis Obispo Co	●			●		
37	Morro Bay		●			●	
38	Morro Bay Coast	●			●		
39	Diablo Canyon Coast	●			●		
40	Port San Luis Area	●			●		
41	N Santa Barbara Co/Pismo Beach	●			●		
42	Goleta to Pt Conception	●			●		
43	Rincon to Goleta	●			●		
44	Santa Barbara Oil Platform			●			●
45	Ventura to Rincon	●			●		
46	Pt Dume to Oxnard	●			●		
47	N Santa Monica Bay	●			●		
48	N Channel Islands			●			●
49	Middle Santa Monica Bay	●			●		
50	S Santa Monica Bay	●			●		
51	Long Beach		●			●	
52	San Pedro Bay		●			●	
53	Palos Verdes	●			●		
54	Orange County Oil Platforms			●			●
55	Santa Ana River to Seal Beach	●			●		
56	Newport Bay		●			●	
57	Crystal Cove to Santa Ana River	●			●		
58	Dana Point Harbor		●			●	
59	San Onofre to Crystal Cove	●			●		
60	Catalina Island			●			●
61	Oceanside Harbor		●			●	
62	La Jolla to San Onofre	●			●		
63	Mission Bay		●			●	
64	Pt Loma to La Jolla	●			●		
65	Pt Loma	●			●		
66	San Diego N Bay		●			●	
67	San Diego S Bay		●			●	
68	Tijuana to N Island	●			●		

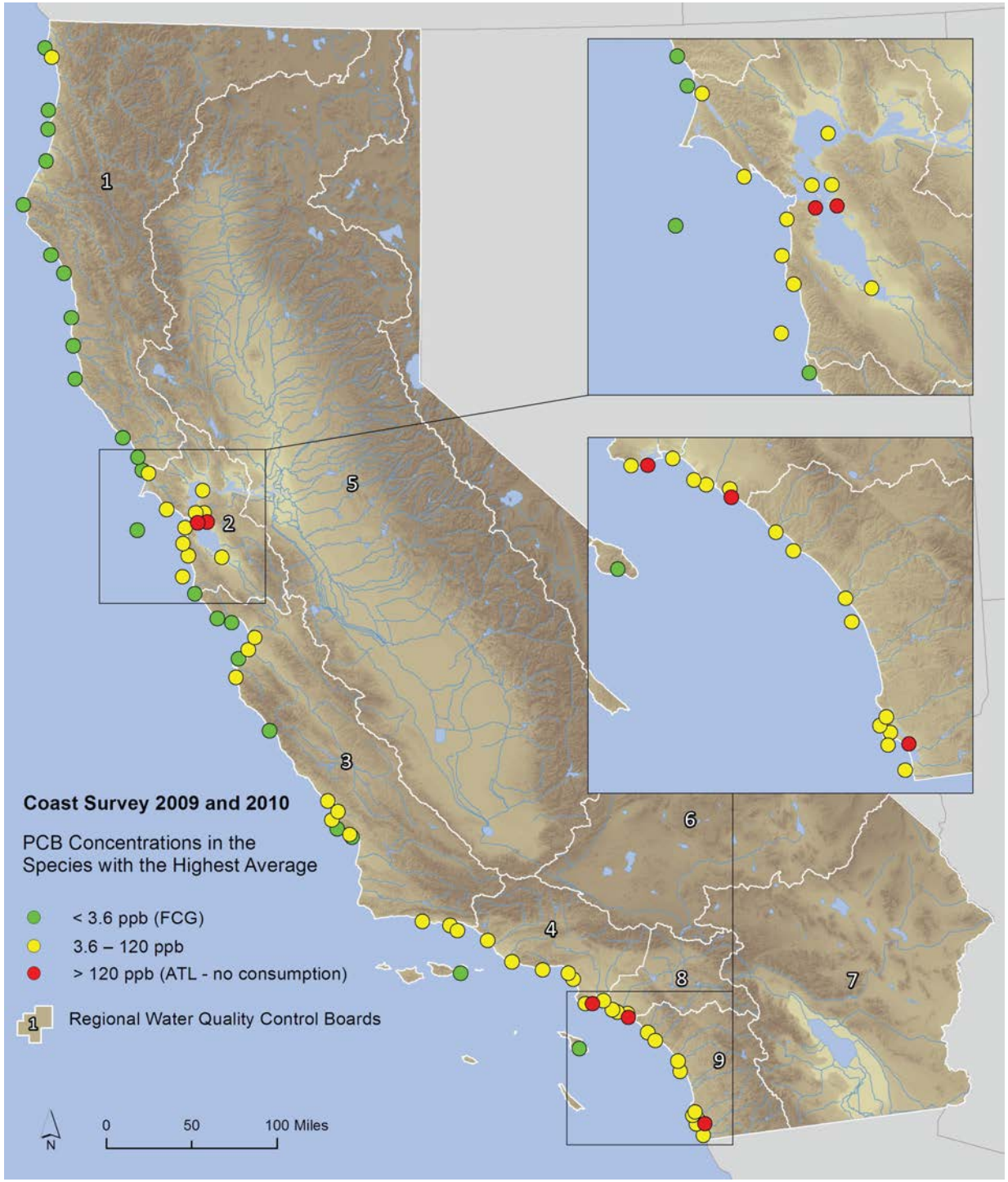
Coast Sampling – Round 2

- Recap of Round 1
  - Widespread high mercury



Coast Sampling – Round 2

- Recap of Round 1
  - Widespread high mercury
  - A few spots with high PCBs



Coast Sampling – Round 2

- Assumptions for Round 2
  - 3 years
  - 62 zones (SF Bay is on its own)
  - 5 species per zone

- **Bight Zones**
  - 2018
  - SWAMP: Hg in 5 species
  - Bight Program: Organics in 5 species (including 3 replicates for 2 species)

- **Other Zones**
  - 2020, 2022
  - SWAMP: Hg in 5 species, organics in one comp from each of two species

Details and Decisions

- Budget
- Sample collection
- Zones
- Species
- Chemical analysis

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Details and Decisions: Budget

Fiscal Year	2017/18	2018/19	2019/20	2020/21	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026
Sampling Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
	Coast 2.1	Bass Lakes 1.3	Coast 2.2	Bass Lakes 1.4	Coast 2.3	Bass Lakes 1.5	Rivers and Streams (Bass & High Trout)	Bass Lakes 2.1	Trout Lakes
Project management and coordination, peer review: SWAMP and CWQMC (SFEI)	$75,000	$75,000	$75,000	$85,000	$85,000	$85,000	$85,000	$85,000	$85,000
Project management and coordination, monitoring design, data validation, infrastructure: SWAMP (MPSL)	$75,000	$70,000	$65,000	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
Clean Lakes Study									
Status and Trend Monitoring (Lakes, Coast, Rivers)	$329,789	$424,789	$295,000	$300,000	$300,000	$300,000	$300,000	$300,000	$300,000
Coastal Fish (Round 2)									
Statewide Synthesis Report (SWAMP + Other)									
Upload, Maintenance, Minor Enhancements	$15,000	$15,000	$15,000						
Latest Estimated Cost of Current Year Monitoring	$492,597	$414,628	$265,185						

- Long-term plan – 3 years for the coast
- Funds for monitoring coming in
- Funds for monitoring being spent
- Challenge looming in 2020 – contract ends in March
- Tilting toward spending in 2018 and 2019
- **Decision:** Sample entire Bight in 2018

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Details and Decisions: Design Summary

Task	Who	Cost per Zone	Total Cost for 27 Zones
Collect **5 species per zone**: 15 kelp bass, 15 white croaker, chub mackerel, 10 Hg species Y, 5 species Z	MPSL	13,800	372,600
Compositing and archiving	MPSL	1,584	42,678
Mercury Analysis: individuals in 20 fish; 3 composites	MPSL	1,932	52,164
Selenium Analysis: 5 composites	MPSL	895	24,165
Organics Analysis: 3 composites for kelp bass, white croaker, and chub mackerel; one composite for species Y and Z	Bight Labs	In-kind	In-kind

- $189K of PCB analysis; $189K of DDT analysis
- Bight may sample 3 zones – with intensified sampling
  - IACUC issue for MLML
- Other efforts to coordinate with? (San Diego Bay?)

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Details and Decisions: Species

- **Bight Program preferences**
- Primary
  - White Croaker
  - Kelp Bass
  - Pacific Chub Mackerel
- Secondary
  - Barred Sand Bass
  - Spotted Sand Bass
  - Yellow Croaker
  - Olive Rockfish
  - Scorpionfish
  - Halibut
  - Shiner Perch

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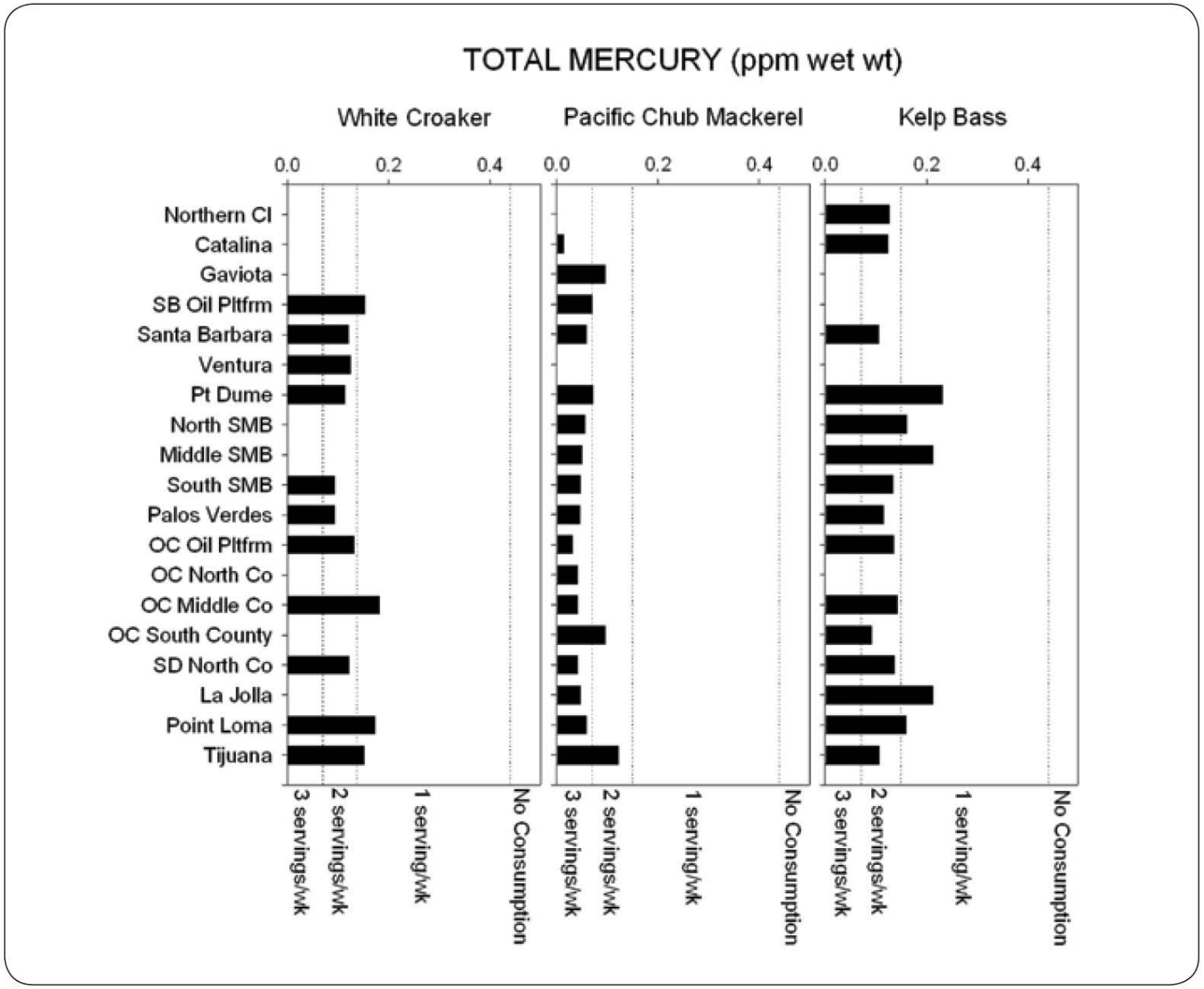

Figure 4-3. Average methylmercury concentrations (ppm) by fishing zone for three commonly occurring species in the Southern California Bight.

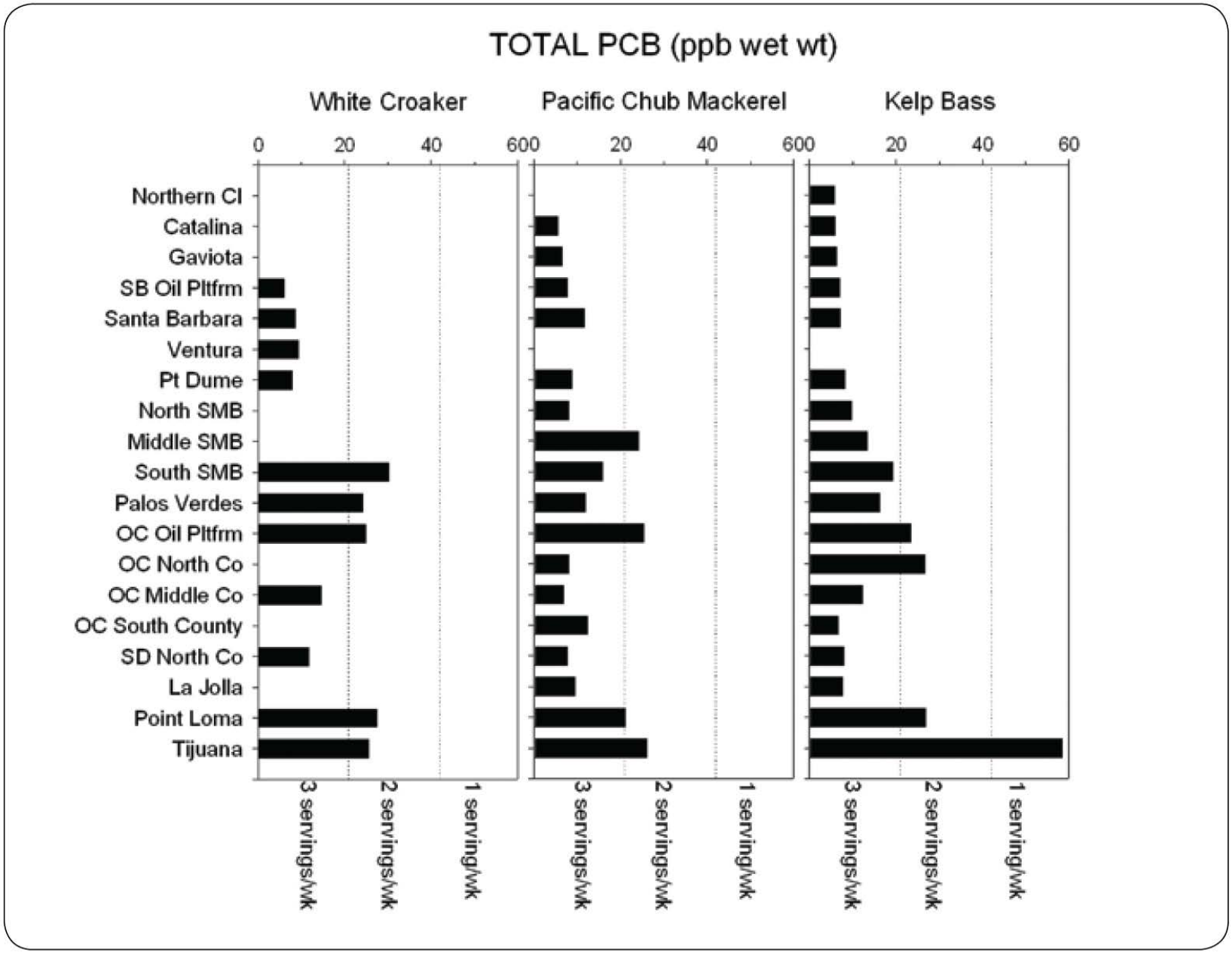

Figure 4-5. Average PCBs (ppb) by fishing zone for three commonly occurring species in the Southern California Bight.

Details and Decisions: Species

- **BOG preferences**
- Mercury trend indicator species
  - Kelp Bass
  - Barred Sand Bass
  - Spotted Sand Bass
  - Gopher Rockfish – statewide indicator
- Organics trend indicator species
  - Shiner Surfperch – statewide indicator

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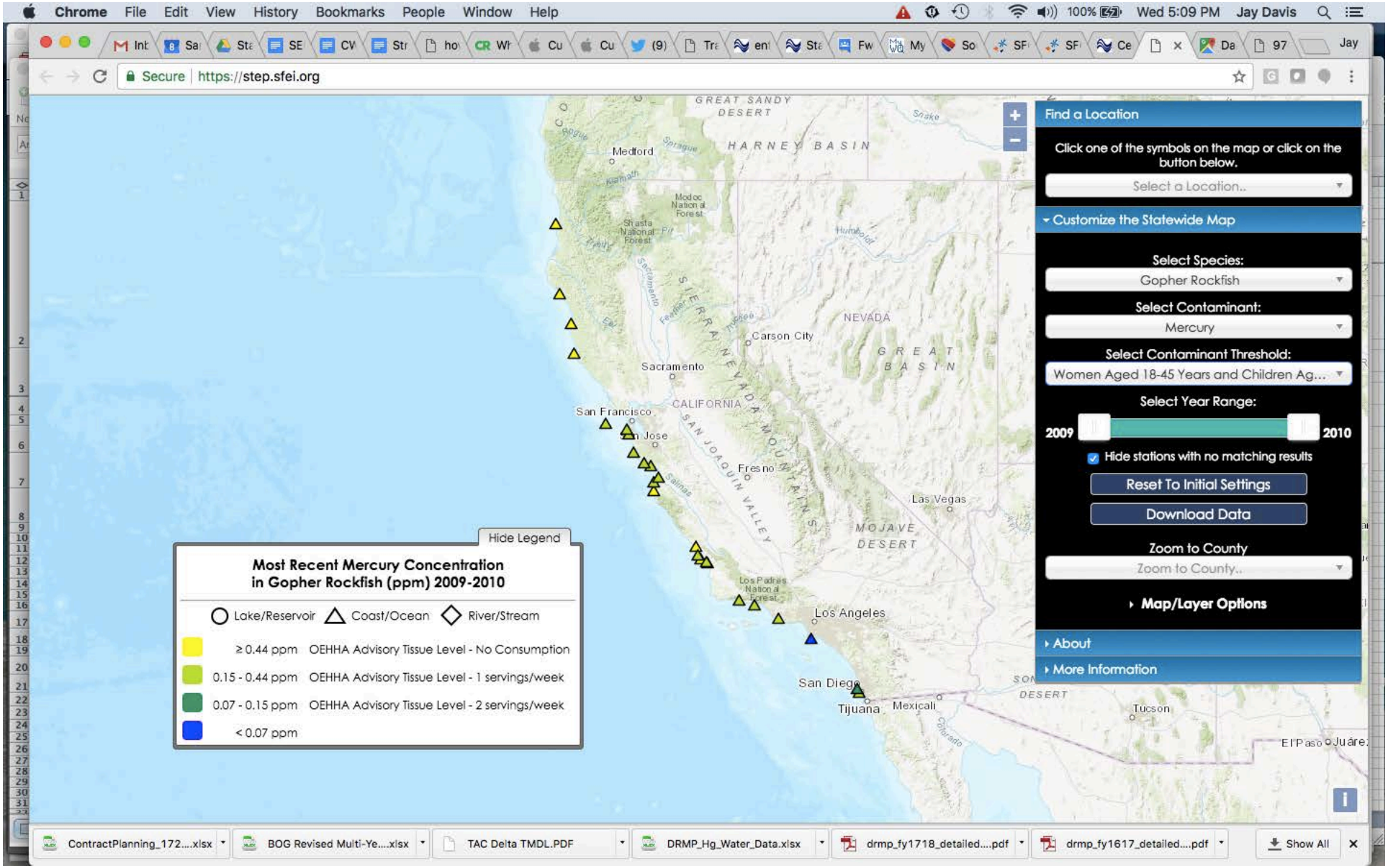
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Find a Location
Click one of the symbols on the map or click on the button below.
Select a Location..
Customize the Statewide Map
Select Species:
Gopher Rockfish
Select Contaminant:
Mercury
Select Contaminant Threshold:
Women Aged 18-45 Years and Children Ag...
Select Year Range:
2009
2010
Hide stations with no matching results
Reset To Initial Settings
Download Data
Zoom to County
Zoom to County..
Map/Layer Options
About
More Information
Hide Legend
Most Recent Mercury Concentration in Gopher Rockfish (ppm) 2009-2010
Lake/Reservoir
Coast/Ocean
River/Stream
≥ 0.44 ppm OEHHA Advisory Tissue Level - No Consumption
0.15 - 0.44 ppm OEHHA Advisory Tissue Level - 1 servings/week
0.07 - 0.15 ppm OEHHA Advisory Tissue Level - 2 servings/week
< 0.07 ppm
GREAT SANDY DESERT
HARNEY BASIN
Medford
Carson City
NEVADA
GREAT BASIN
Sacramento
CALIFORNIA
San Francisco
San Jose
Fresno
Las Vegas
MOJAVE DESERT
Los Angeles
San Diego
Tijuana
Mexicali
Tucson
El Paso
Juárez
ContractPlanning_172....xlsx
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TAC Delta TMDL.PDF
DRMP_Hg_Water_Data.xlsx
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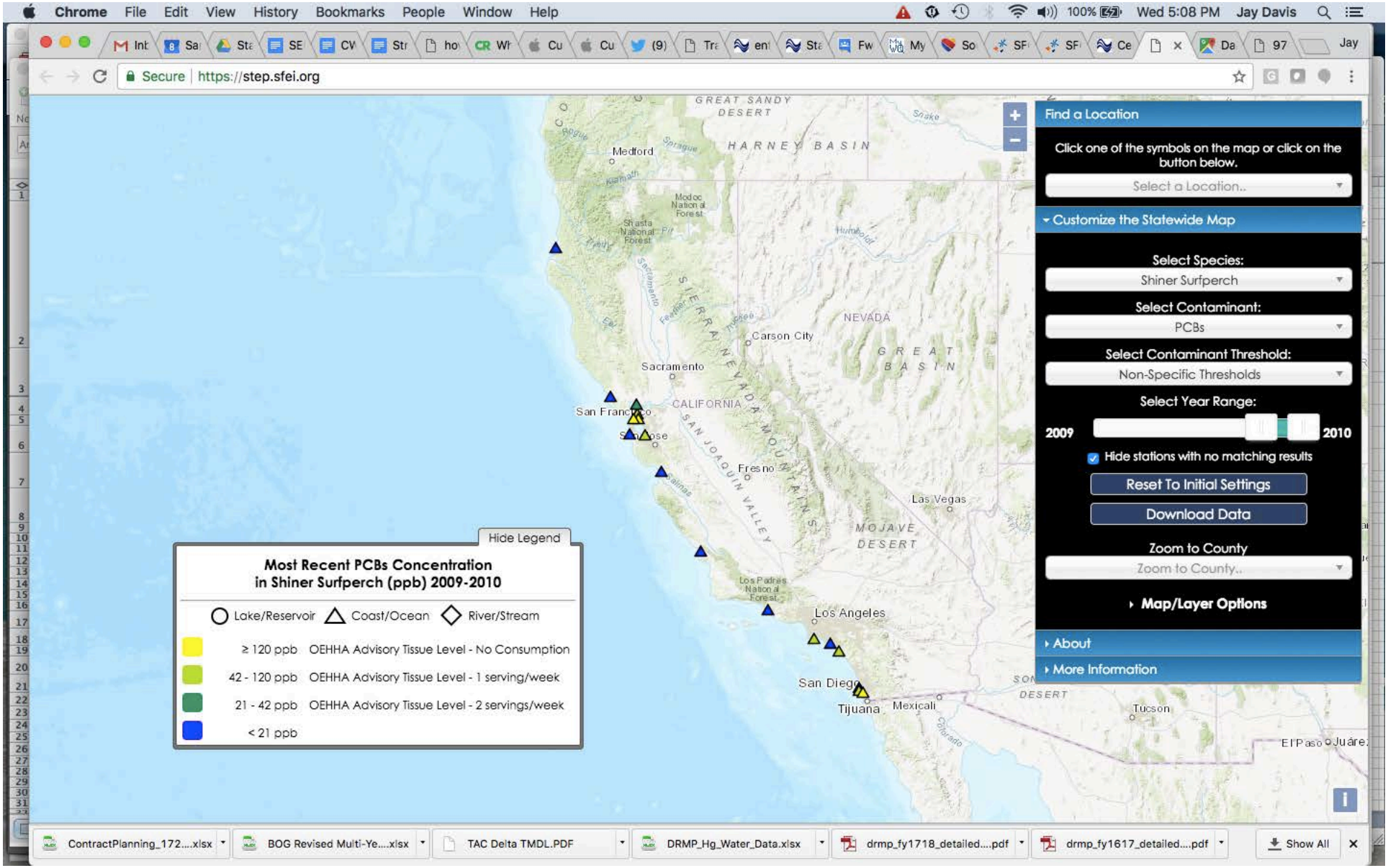
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Find a Location
Click one of the symbols on the map or click on the button below.
Select a Location..
Customize the Statewide Map
Select Species:
Shiner Surfperch
Select Contaminant:
PCBs
Select Contaminant Threshold:
Non-Specific Thresholds
Select Year Range:
2009
2010
Hide stations with no matching results
Reset To Initial Settings
Download Data
Zoom to County
Zoom to County..
Map/Layer Options
About
More Information
Hide Legend
Most Recent PCBs Concentration in Shiner Surfperch (ppb) 2009-2010
Lake/Reservoir
Coast/Ocean
River/Stream
≥ 120 ppb OEHHA Advisory Tissue Level - No Consumption
42 - 120 ppb OEHHA Advisory Tissue Level - 1 serving/week
21 - 42 ppb OEHHA Advisory Tissue Level - 2 servings/week
< 21 ppb
GREAT SANDY DESERT
HARNEY BASIN
Medford
Modoc National Forest
Shasta National Forest
SIERRA NEVADA MOUNTAINS
NEVADA
Carson City
GREAT BASIN
Sacramento
CALIFORNIA
San Francisco
San Jose
Fresno
SAN JOAQUIN VALLEY
Las Vegas
MOJAVE DESERT
Los Padres National Forest
Los Angeles
San Diego
Tijuana
Mexicali
Tucson
El Paso
Juárez
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BOG Revised Multi-Ye....xlsx
TAC Delta TMDL.PDF
DRMP_Hg_Water_Data.xlsx
drmp_fy1718_detailed....pdf
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Details and Decisions: Species

OEHHA Data Gaps

✔ We have collected these before and can target them

OEHHA Recommendations for Species Collection

SPECIES	CEDEN SAMPLES (Sites)	DESIRED SAMPLES*	NOTES
Finfish			
California Halibut** ✔	7(3)	23 individuals	Preferably from outside of bays and Socal advisory area (Ventura Pier to Dana Point)
California Sheephead ?	8(2)	22 individuals from 2 locations	Need samples from spots other than Pt Loma and La Jolla kelp beds
Halfmoon** ?	4(1)	26 individuals from 2 locations	Halfmoon and Opaleye can be grouped together, so a combined total of 30 is acceptable
Opaleye** ✔	20(4)	10 more individuals	
Kelp Greenling ✔	23(6)	7 individuals	
Pacific Halibut ?	0	30 individuals from 3 locations	
Sharks (Shortfin Mako, Blue Shark, or Thresher) ✖	0	30 individuals from 3 locations	
Tuna species (Albacore, Bluefin, Yellowfin, Bigeye) ✖	0	30 individuals from 3 locations	
Invertebrates			
Rock Crab (Brown, Yellow)** ?	6(1)-Ventura Pier, 15(1)-Santa Monica	9 individuals from 1 location	We have enough Red Rock Crab
Spiny lobster ?	0	30 individuals from 3 locations	
Pismo Clams ?	0	30 individuals from 3 locations	
Littleneck Clams ?	5 from Humboldt (40.7685, -124.236)	25 individuals from 3 locations	

Details and Decisions: Intercalibration

- Switch to Ken

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Details and Decisions: Timeline

- Finalize draft design and prepare addendum to the 2009-2010 Sampling and Analysis Plan (January)
- BOG Review Panel Meeting (February)

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Item 4: Information: San Diego Bay Fish Consumption Study and Monitoring Plans

- Desired outcome: The BOG is aware of the study and its findings, and considers the findings in designing the 2018 Bight sampling. BOG monitoring is coordinated with future San Diego Bay monitoring.

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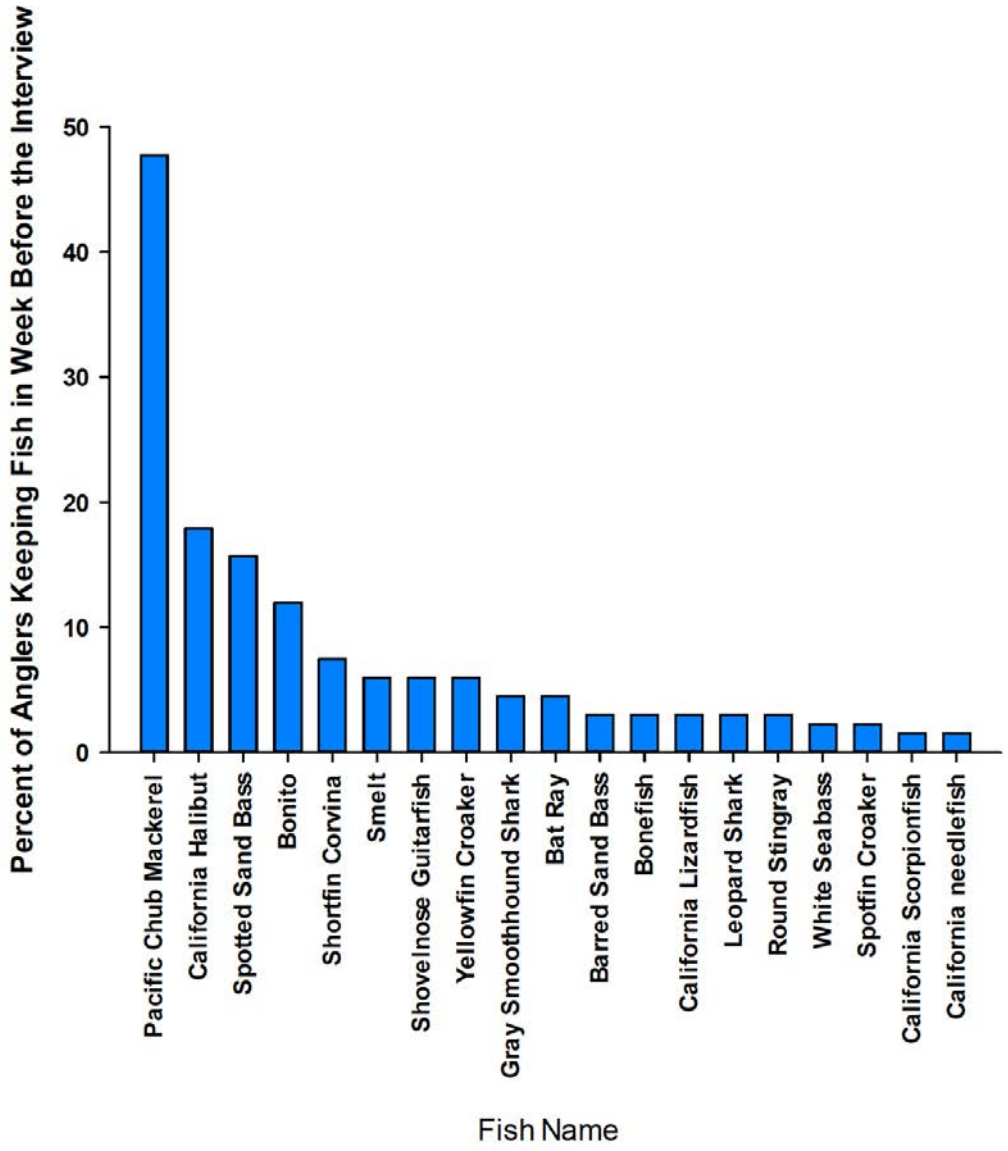

Figure 28. Percent of anglers who caught and kept fish species for consumption within the week they were surveyed. Fish caught 1% or less of the time are not listed. N = 134; N represents the number of local people (San Diego County only) who responded to the question: "What types of fish have you caught and kept for yourself, or someone else, to eat this week in San Diego Bay?"

Item 5: Discussion and Decision: Beach Fishing

- Desired outcome: Discussion of this issue and decision on whether to explore it further.

- Should this potentially be part of our long-term plan?

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Motivation

- Mary Hamilton
- “The Subsistence Fishermen in our Region are catching surfperch in some of the most contaminated places like the beach at Oso Flaco (where we have oil fields and the highest DDT in lake-fish in the nation). This community of fishermen need to be informed about the quality of the food they eat multiple times each week.”
- “I was recently contacted by a researcher who is concerned about the lack of information available to beach fishermen, who fish several days a week and are eating surfperch etc. I wonder if a beach component could be considered for BOG to inform the subsistence fishing community. I know that this type of fishing is more challenging and time consuming but I feel that it is worth a conversation. Especially in light of the recent adoption of the Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions.”

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GETTING STARTED

A few simple practices and gear choices can greatly enhance your enjoyment of Central California's year-round surfperch fishing. Anglers also enjoy seasonal opportunities for striped bass, California halibut, jacksmelt and surf smelt, among others.

WHEN TO GO FISHING …

You are more likely to catch fish:

- In the early morning or an hour before dusk
- On an incoming high tide. The rising water level dislodges small invertebrates in sand bars, stimulating fish to feed.
- During mild to moderate surf
- EXCEPTIONS: Surf smelt and night smelt fishing are best in the daytime and evening respectively, on a falling high tide. Both species usually spawn on coarse-grained sandy beaches when the surf is mild.

CASTING TIPS …

- When you are beach fishing, cast to the edges of sand bars and drop-offs and be on the lookout for fish "highways," or channels with transiting fish in search of food.
- If you are surfperch fishing, try casting near sand crab beds.
- If you are striped bass or halibut fishing, look for signs of baitfish, such as feeding birds and marine mammals, and cast into these areas.

Species	Peak Months
Surfperch	October – June
Striped Bass	April – September
California Halibut	May – August
Jacksmelt	April – August
Night/Surf Smelt	February – August

Peak months for some favorite species in Central California.

Alternate communication formats available upon request. If reasonable accommodation is needed call (916) 322-8911 or the California Relay (Telephone) Service for the deaf or hearing impaired from TDD phones at 1 (800) 735-2929 or 711.

ROD AND REEL TIPS

If you are **heavy bait fishing or "plugging,"** use a 10- to 12-ft rod rated for 2- to 8-oz casting, with spinning or conventional reels capable of holding 150 to 200 yds of 20- to 30-lb monofilament line.

If you are **fly-fishing,** try a 9- to 11-ft rod, rated for a 6- to 8-weight line, with matching reel and sink-tip or shooting head lines. Stripping baskets help manage line in the surf.

If you are **light bait fishing** or using **Carolina-rigged grubs,** try a 7- to 9-ft rod, with either a spinning or bait casting reel. Use a 6- to 12-lb test line that can comfortably cast a 1/2- to 1-oz egg sinker, depending on surf conditions.

NET FISHING

For **surf smelt fishing along San Mateo County beaches,** try cast or "throw" nets in the 6- to 8-ft range, with 1 to 1½ lbs of lead per foot and 3/8-in webbing.

For **night smelt fishing,** try "A-frame" nylon webbing nets constructed of two rigid poles and a cross-member.

DFG/S. Bell

Carolina rig

EQUIPMENT CHECKLIST

- ☑ Waders, hat, polarized sunglasses and sunblock. Besides protecting your eyes, polarized sunglasses will help you see fish in the shore break and run-up. Wear a U.S. Coast Guard approved personal flotation device if wading.
- ☑ Pack for fish, tackle, tape measure, and needle-nose pliers for removing hooks
- ☑ Bucket and scale to weigh catch, if fishing for night or surf smelt

Pack Out What You Pack In: Fishing Line, Hooks and Trash

To report lost fishing gear visit:

www.lostfishinggear.org

TURN IN POACHERS AND POLLUTERS.

Cheaters ruin the resource and your sport.

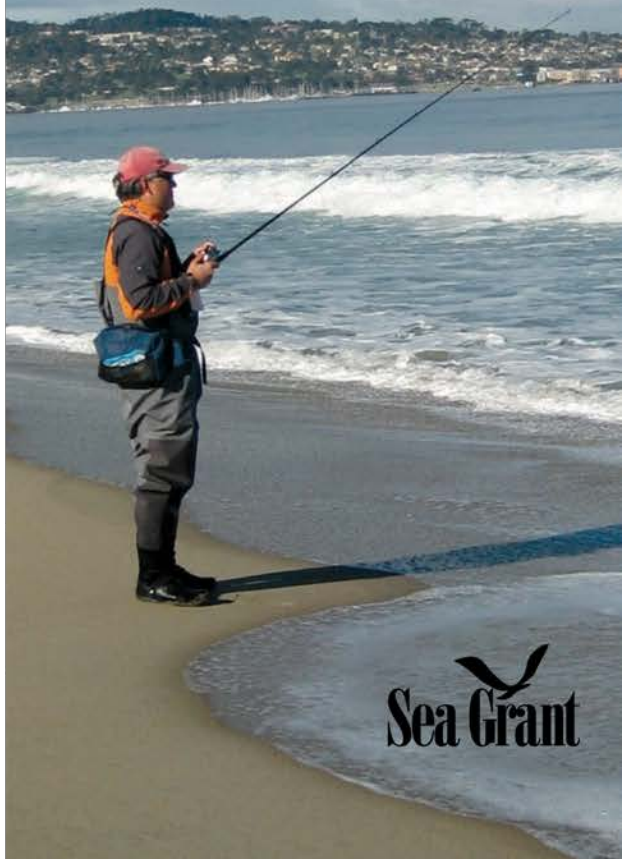
To bust them, make an anonymous call to CalTIP:

1 (888) DFG-CalTIP (1 (888) 334-2258)

2 HDPE

A Guide to CENTRAL CALIFORNIA BEACH FISHING

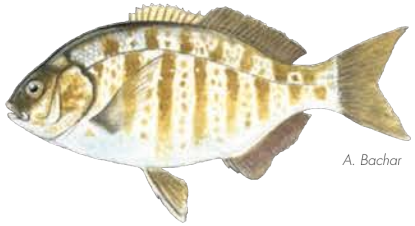
Photo credit: DFG/K. Oda



Sea Grant

COMMONLY CAUGHT CENTRAL CALIFORNIA SURF SPECIES

Sea Grant



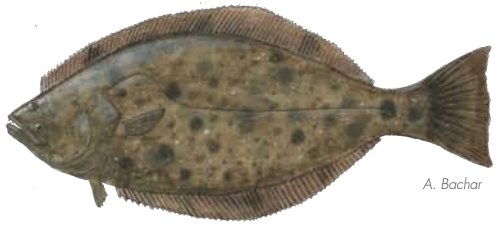
Barred surfperch
Amphistichus argenteus

Walleye surfperch
Hyperprosopon argenteum

Striped bass
Morone saxatilis

Calico surfperch
Amphistichus koelzi

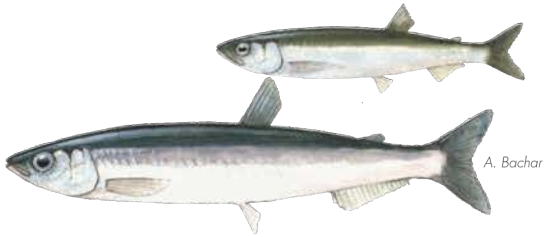
Silver surfperch
Hyperprosopon ellipticum



California halibut
Paralichthys californicus

Redtail surfperch
Amphistichus rhodoterus

Jacksmelt
Atherinopsis californiensis



Surf smelt
Hypomesus pretiosus

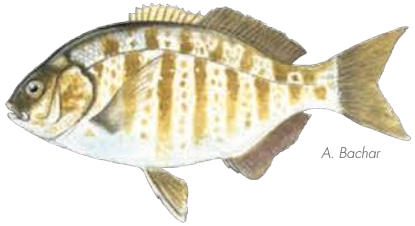
Night smelt
Spirinchus starksi

For fish consumption advisories visit www.oehha.ca.gov/fish.html

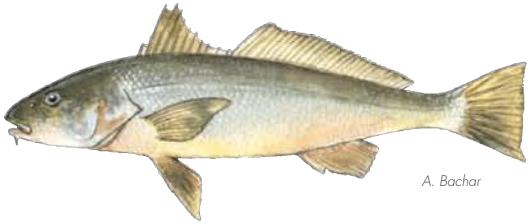
For more information and current fishing regulations, visit the California Department of Fish and Game Web site at: www.dfg.ca.gov/marine.

COMMONLY CAUGHT SOUTHERN CALIFORNIA SURF SPECIES

Sea Grant

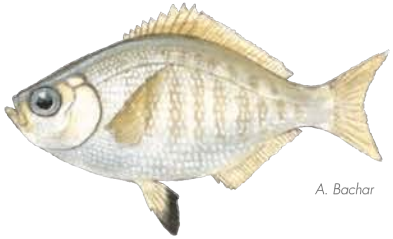


Barred surfperch
Amphistichus argenteus



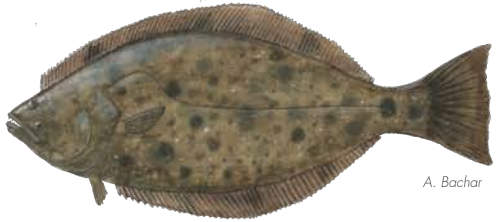
California corbina
Menticirrhus undulatus

Leopard shark
Triakis semifasciata

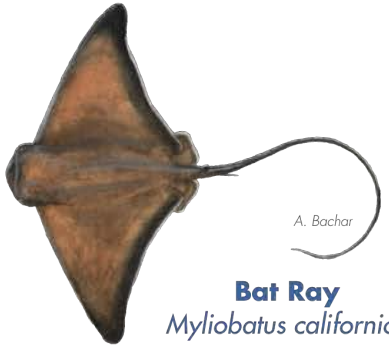


Walleye surfperch
Hyperprosopon argenteum

Spotfin croaker
Roncador stearnsii

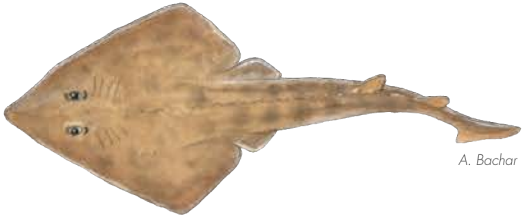


California halibut
Paralichthys californicus



Bat Ray
Myliobatus californica

Yellowfin croaker
Umbrina roncador



Shovelnose guitarfish
Rhinobatos productus

For fish consumption advisories visit www.oehha.ca.gov/fish.html

For more information and current fishing regulations, visit the California Department of Fish and Game Web site at: www.dfg.ca.gov/marine.

Item 6: Discussion: Safe to Eat Portal Revisions (Attachment)

- Desired outcome: Input and approval from the BOG.

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Bioaccumulation of Pollutants in Fish Tissue

Fish and shellfish are nutritious and good for you to eat. But some fish and shellfish may take in toxic chemicals from the water they live in and the food they eat. Some of these chemicals build up in the fish and shellfish - and in the humans that eat fish and shellfish - over time. Although the chemical levels are usually low, it is a good idea to learn about advisories and monitoring in water bodies where you fish, and for fish or shellfish you eat.

The interactive maps linked below display monitoring data, fish consumption advisories and waterbodies listed as impaired due to pollutant levels in fish.

Fish Consumption Advisories
Can I eat fish or shellfish caught in my lake, stream or ocean location?

The Office of Environmental Health Hazard Assessment (OEHHA) evaluates contaminant levels in sport fish and issues Fish Consumption Advisories for water bodies in California. Click on the map icon to the left to see an interactive map of current fish consumption advisories issued by OEHHA for specific lakes, rivers or coastal fishing areas. Fish consumption advice is also available for lakes, reservoir, and coastal areas that do not currently have site-specific advice, as well as for fish that migrate.

Contaminant Levels and Long Term Trends in Sport Fish
What are the levels, trends and long-term trends in my lake, stream or ocean location?

Click on the map icon to the left to see an interactive map that allows you to explore fish contaminant data for your favorite fishing locations. Data are available from extensive monitoring by the Surface Water Ambient Monitoring Program's Bioaccumulation Monitoring Program and from other studies.

Impaired Water Bodies
Which lakes, streams and ocean locations are listed by the state as impaired for fish or shellfish consumption?

Click on the map icon to the left for an interactive map showing California waters placed on the 2006 Impaired Water Bodies list as impaired for uses related to fish or shellfish consumption.

Note: An updated version of this map that includes listings from 2010 – 2016 Integrated Reports is under development.

FOR MORE INFORMATION: Visit the Bioaccumulation Monitoring Program website for interpretative reports, fact sheets, monitoring plans, and more information about monitoring contaminants in sport fish.

QUESTIONS OR COMMENTS? Contact Us

Safe to Eat Portal

- Feedback on the data and trends page?

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Item 7: Timeline

- December
  - Final draft Clean Lakes
  - Final 2015 data report
  - Draft 2016 data report
- January
  - Draft sampling and analysis plan for 2018
- February
  - BOG meeting with Review Panel

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